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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/703,942

10/31/2000

Eric A. Pulsipher

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06/28/2005

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FORT COLLINS, CO 80527-2400

EXAMINER

HO, CHUONG T

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/703,942

Applicant(s)

PULSIPHER ET AL.

Examiner

CHUONG T. HO

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-7 and 15-20 is/are allowed.
- 6) ☒ Claim(s) 8 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

1. The amendment filed 04/11/05 have been entered and made of record.
2. Applicant's amendment filed 04/11/05 with respect to claims 1-3, 5-20 have been considered but are moot in view of the new ground(s) of rejection.

***Response to Arguments***

3. Applicant's arguments filed 04/11/05 have been fully considered but they are not persuasive.

In the page 7, lines 26-28, the applicant alleged "the proposed combination of Liang (U.S.Patent No. 5,732,086) in view of Wood (U.S.Patent No. 6,405,248) does not disclose, teach, or suggest at least the features of "creating a list of existing tuples from an existing topology representing nodal connections of a network at a prior time".

The Applicant's argument is not persuasive.

Liang (U.S.Patent No. 5,732,086) discloses "creating (updating) a list of existing tuples from an existing topology (its topology database) representing nodal connections of a network at a prior time" (see abstract, the originating node constructs and stores a topology table entry which includes data from received ACK messages. Each entry includes a node identifier , an originating node link identifier and a neighbor node identifier from which an ACK message was received and a neighbor node link identifier for the link) (see col. 5, lines 55-57, An UPDATE message includes the same first five fields listed above for the ACK message as well as a field which contains the entire "topology table row" for the node originating an UPDATE message) (see col. 8, lines 13-15, the "Adjusting" state means that the node is receiving topology update information from other nodes and is merging the changes into its topology table) (see col. 7, lines

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20-24, to the extent that other nodes receive duplicate information, that information is discarded and the row data is updated accordingly. Each topology table can further updated during run time through use of the Update message).

Wood (U.S.Patent No. 6,405,248) discloses "creating a list of existing tuples from an existing topology (topology database) representing nodal connections of a network at a prior time" (see abstract, creating an accurate topology map of a given network by: obtaining a list of managed network device....Filters may then be utilized on the source address tables in order to provide more accurate topology results. Connections between nodes are also resolved by utilizing sorting methods).

Therefore, "the proposed combination of Liang (U.S.Patent No. 5,732,086) in view of Wood (U.S.Patent No. 6,405,248) disclose, teach, or suggest at least the features of "creating a list of existing tuples from an existing topology representing nodal connections of a network at a prior time"

4. Claims 1-3, 5-20 are pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al. (U.S.Patent No. 5,732,086) in view of Wood (U.S.Patent No. 6,405,248 B1).

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In the claim 8, see figure 3, Liang et al. discloses topology table 26 (tuples) which comprises: node identifier (host identifier), link port (port sepecification) (see col. 5, lines 7-15, lines 21-25, col. 6, lines 5-9, col. 7, lines 20-23, col. 14-16); comprising:

A topology database that stores an existing topology of a network using tuples (topology table 26, see figure 3) , wherein each tuple includes a host identifier, port specification for a node in the network from the existing topology representing nodal connections of the network at a prior time (see col. 5, lines 7-15, lines 21-25, col. 6, lines 5-9, col. 7, lines 20-23, col. 14-16);

A topology converter connected to the topology database that receives new tuples that represent new nodal connections, and compare the new tuples with the existing topology to identify changes in the network by comparing the host identifier, port specification, and determines differences between the new tuples with the existing tuples representing nodal connections of the network at the prior time (see col. 7, lines 20-23) (see col. 8, lines 13-16);

However, Liang et al. is silent to disclosing tuples comprising interface information.

Wood discloses creating an accurate topology map of a given network by: obtaining a list of managed network device; identifying link port and node port....device interface information (see abstract); comprising:

Each of the tuples (topology map) comprises interface information, a port specification, host identifier (see abstract, table 1, col. 6, lines 10-20).

Liang and Wood are directed to routing packets using IP protocol. Wood recognizes that there may be conflicting source address. Hence, it would have been obvious to use the interface information of Wood in Liang as it would have resolved source address conflicts when routing using the table (tuples) of both Liang and Wood.

6. In the claim 10, Liang et al. discloses updating a topology database with a new topology (see col. 7, lines 20-23).

7. In the claims 11, 12, Liang et al. discloses the step of comparing comprises identifying duplicate tuples that appear both in the list of existing tuples and in the new tuples, and maintaining a current status of the topology for these tuples (see col. 7, lines 20-23).

8. In the claims 13, 14, Liang et al. discloses the step of comparing comprises searching for a host of a new singly-heard host link tuple or a new multi-heard host link tuple in the list of existing tuples (see col. 7, lines 20-23).

#### ***Allowable Subject Matter***

9. Claims 1-3, 5-7, 15-20 are allowed.

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: the prior art (5732086, 6405248, 4644532, 5727157, 6160796) of record does not appear to teach or render obvious the claimed limitations in combinations with the specific added limitations, as recited from independent claims 1, 15: "creating a new list of a plurality of

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tuples for a topology of the network at a current time, wherein the new list of tuples represent nodal connections of the network at the current time".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

06/16/05

  
WELLINGTON CHIN  
SUPERVISORY PATENT EXAMINER